Appendix E.10: Wildfire

Wildfire vulnerability was assessed for the population and general building stock (residential, commercial, industrial, governmental, educational, agricultural and religious) and contents for parishes within hazard areas. The WUI (Wildland Urban Interface) data was used to determine the exposure of the general building stock for the nine parishes for which the WUI data depicted as having a risk in Louisiana.

Hazard Ranking

The wildfire hazard rankings were based on a compilation of USGS National Land Cover data (1991 – 2000), since it was available for all 64 parishes. Information on the acres burned from 1991-2000 was analyzed to determine the average acreage per parish burned over the past ten years. The assumption was made that this time period is representative of wildfire risk.
The high / medium / low rankings for each parish were developed by:

- Obtaining the USGS National Land Cover data;
- Sorting the list by parish from highest to lowest losses;
- Assigning the high rank to parishes with greater than or equal to one thousand acres burned;
- Assigning the medium rank to parishes where the number of acres burned are less than one thousand but greater than zero; and
- Assigning the low rank to parishes with no acres burned.

The resulting ranked parishes are shown in in Table E-38. Map E-17 presents the ranking of all the parishes with high, medium and low risk to wildfire.

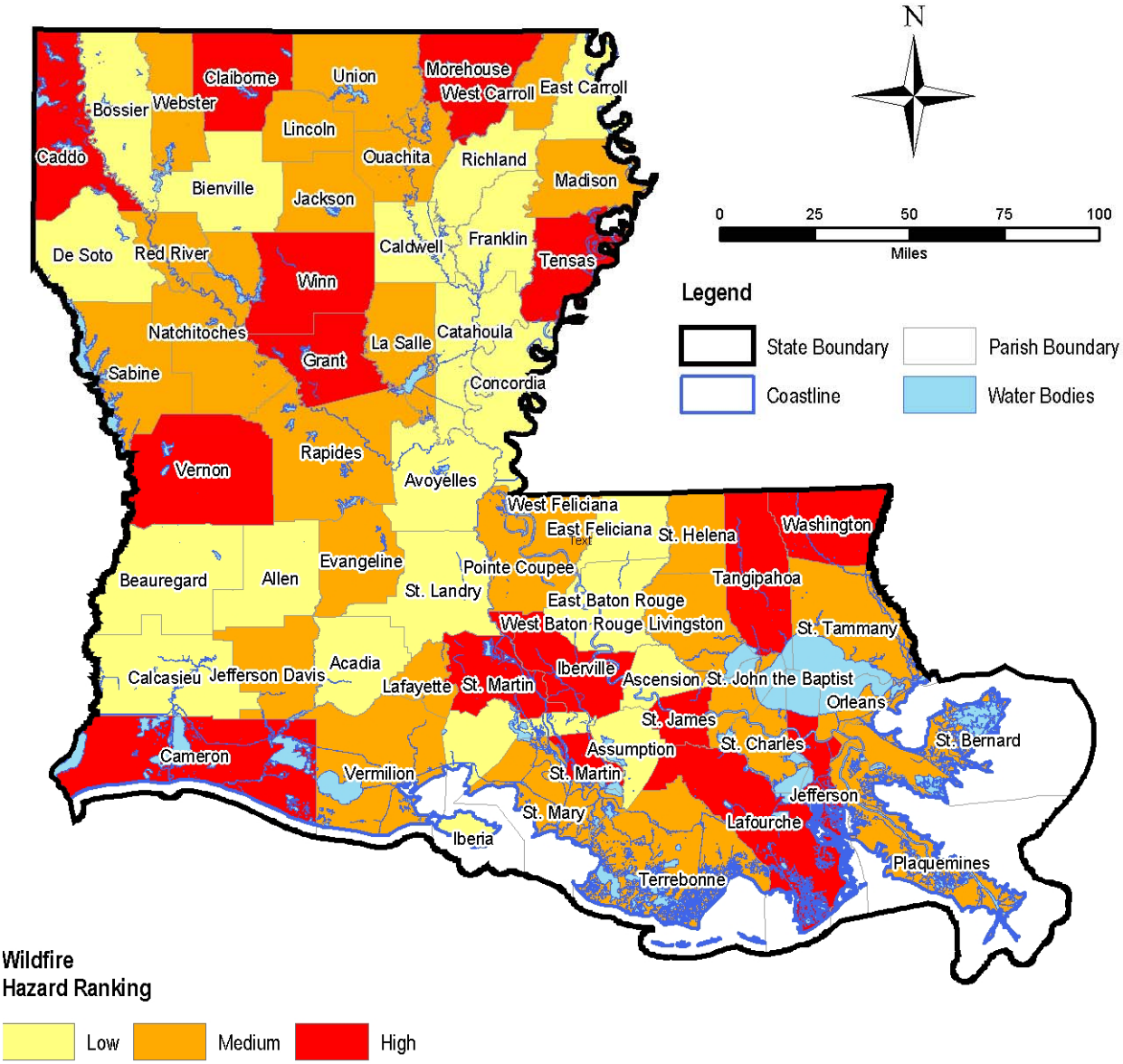
Table E-38. Wildfire Hazard Ranking for Louisiana Parishes

Parish	Risk Zone
Allen	High
Beauregard	High
Caddo	High
Calcasieu	High
De Soto	High
Livingston	High
Natchitoches	High
Rapides	High
Sabine	High
St. Helena	High
St. Tammany	High
Tangipahoa	High
Vernon	High
Washington	High
Winn	High
Avoyelles	Medium
Bienville	Medium
Bossier	Medium
Caldwell	Medium
Catahoula	Medium
Claiborne	Medium
Concordia	Medium
East Baton Rouge	Medium

Table E-38 (continued)

Parish	Risk Zone
East Carroll	Medium
East Feliciana	Medium
Evangeline	Medium
Franklin	Medium
Grant	Medium
Jackson	Medium
Jefferson Davis	Medium
La Salle	Medium
Lincoln	Medium
Madison	Medium
Morehouse	Medium
Ouachita	Medium
Red River	Medium
Richland	Medium
St. Landry	Medium
Tensas	Medium
Union	Medium
Webster	Medium
West Carroll	Medium
West Feliciana	Medium
Acadia	Low
Ascension	Low
Assumption	Low
Cameron	Low
Iberia	Low
Iberville	Low
Jefferson	Low
Lafayette	Low
Lafourche	Low
Orleans	Low
Plaquemines	Low
Pointe Coupee	Low
St. Bernard	Low
St. Charles	Low
St. James	Low
St. John the Baptist	Low
St. Martin	Low
St. Mary	Low
Terrebonne	Low
Vermilion	Low
West Baton Rouge	Low

Map E-17: Wildfire Hazard Ranking for Louisiana Parishes



Methodology

The HAZUS-MH inventory was developed as follows:

The HAZUS-MH general building stock data provides the building valuation for each specific occupancy classification (e.g., single family residential, retail trade) developed from the 2000 U.S. Census and Dun & Bradstreet. The general building stock data set includes the residential, commercial, industrial, governmental, educational, agricultural and religious buildings for each parish. This data was developed at the census block level and can be aggregated at census tract or parish levels. This data set is from the 2000 version of TIGER/Line files and first quarter of 2002 data from D&B. The dataset was developed by applying RS Means replacement values for typical building floor areas and construction for each specific occupancy, which is a nationally accepted reference on building construction costs and is published annually.

The wildfire hazard vulnerability assessment was based on WUI data that was available for nine parishes. The SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin-Madison used GIS to integrate U.S. Census 2000 and USGS National Land Cover data to develop the WUI. Census data was overlaid with WUI data to determine the population located in the expected at risk areas.

The analysis for the general building stock exposure used HAZUS-MH general building stock data and the WUI data. The general building stock data was overlaid with the WUI data to determine the building value that is exposed.

Loss estimates could not be provided because neither the USGS Land Cover data nor the WUI contained loss information.

Results

Table E-39. Exposure of General Building Stock to Wildfire

Parish	Low-Hazard Affected Exposure ($1,000)								Total
	Population	Residential	Commercial	Industrial	Governmental	Educational	Religious	Agricultural	
Beauregard	6,395	349,714	12,554	2,511	1,948	5,797	6,590	2,106	379,114
Calcasieu	183,315	12,465,657	1,773,367	536,164	31,730	66,709	156,686	17,737	15,030,314
Cameron	9,915	742,742	98,810	47,759	6,574	11,602	14,858	2,174	922,345
Jefferson Davis	2,768	166,921	5,459	2,230	0	1,536	1,364	301	177,510
Natchitoches	1,872	122,426	4,407	0	284	1,026	815	132	128,959
Sabine	22,583	1,573,492	144,310	41,642	18,112	6,630	18,624	1,918	1,802,810
Vermilion	282	41,437	481	609	171	0	0	240	42,699
Vernon	8,794	566,066	12,327	2,592	268	0	3,409	196	584,662
Washington	28,965	1,825,260	192,024	28,292	11,541	15,312	27,647	1,714	2,100,076
TOTAL	264,889	17,853,715	2,243,740	661,799	70,629	108,612	229,993	26,518	21,168,487

Table E-40. Exposure of Building Stock - Specific Occupancy - to Wildfire

	Low-Hazard Affected Exposure ($1,000)										
Parish	Single Family Dwelling	Multi-Family Dwelling	Other Residential	Retail Trade	Wholesale Trade	Banks	Heavy	Light	Food/Drugs/Chemicals	High Tech	Construction
Beauregard	283,207	6,526	59,981	3,035	1,743	1,043	1,461	44	4	0	1,002
Calcasieu	10,332,601	1,046,587	1,086,469	658,907	232,776	62,368	69,134	35,637	313,455	0	88,080
Cameron	646,519	10,475	85,747	21,680	15,262	3,102	1,989	318	2,520	0	6,264
Jefferson Davis	149,347	25	17,548	1,025	1,206	0	680	0	783	0	112
Natchitoches	107,604	805	14,017	1,881	707	1,286	0	0	0	0	0
Sabine	1,189,130	71,982	312,380	86,400	12,790	7,166	4,301	4,228	2,473	0	29,344
Vermilion	36,125	297	5,015	200	140	0	0	0	0	0	140
Vernon	490,631	7,664	67,770	6,282	336	832	318	128	1,568	0	578
Washington	1,576,517	65,215	183,528	95,457	9,373	5,647	15,546	5,557	0	0	4,815
TOTAL	14,811,683	1,209,577	1,832,455	874,868	274,332	81,444	93,429	45,912	320,803	0	130,335

Table E-41 shows the vulnerability of the population and general building stock. Calcasieu, Washington, and Sabine Parishes have the greatest vulnerability of population and residential building stock to wildfire in the State. The residential building stock in these three Parishes accounts for over 88% of the vulnerability to residential building stock in the State. The three Parishes of Calcasieu, Washington and Sabine account for over 88% of the vulnerability to the single-family residential building stock within the nine Parishes included in this analysis. The WUI data was used for the exposure analysis, as it was georeferenced. The USGS Land Cover data was not used to determine vulnerability, as it could not be georeferenced beyond the parish level.

Estimated losses for the wildfire hazard could not be performed due to the quality of the existing data. However, vulnerability and a hazards ranking are provided to assist with developing priorities for hazard mitigation implementation.

Map E-18 Wildfire Exposure and Population Density for Louisiana Parishes

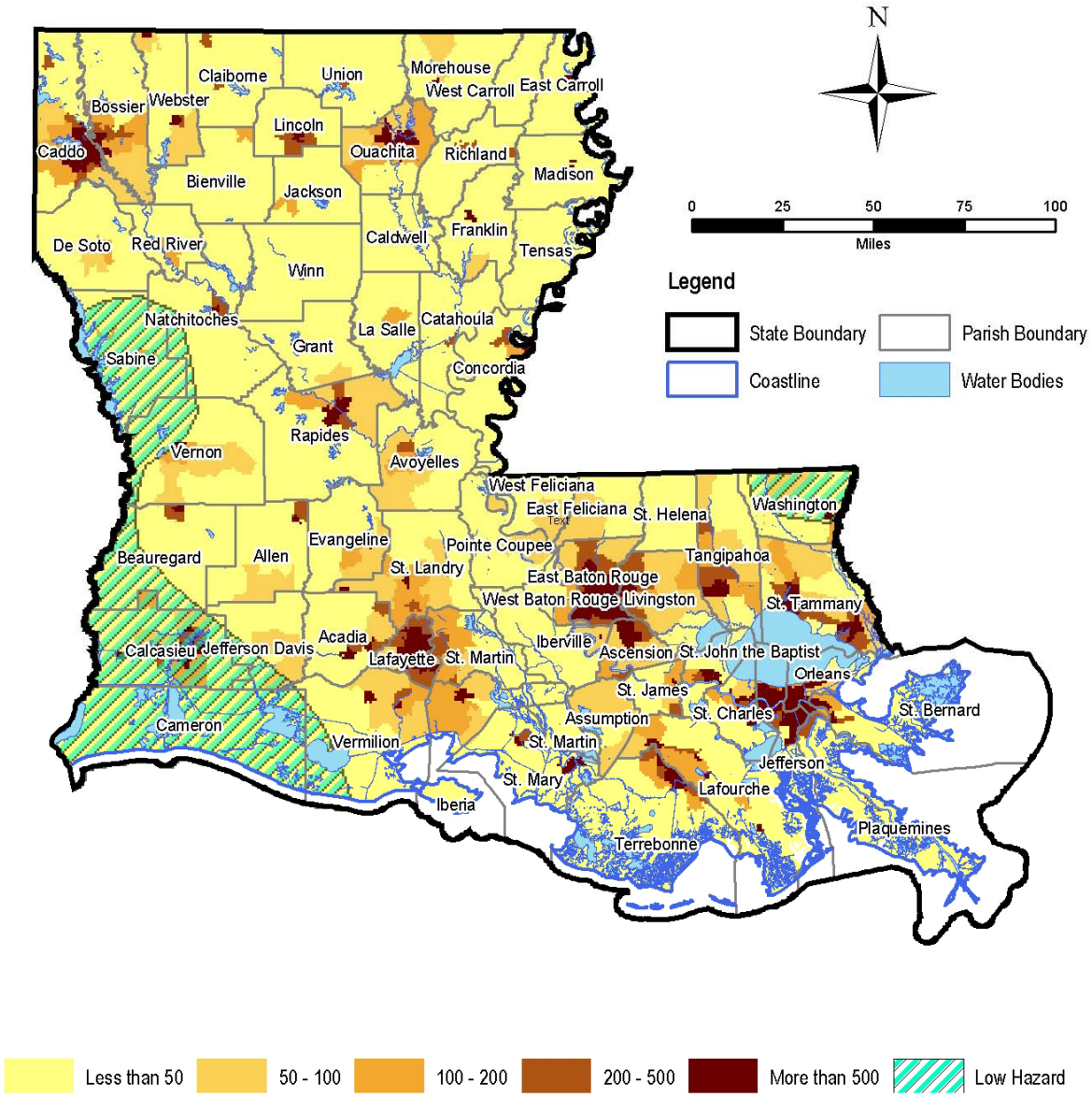


Table E-41. Exposure of Population and General Building Stock to Wildfire for State of Louisiana

Parish	Low-Hazard Affected Exposure ($1,000)								Total
	Population	Residential	Commercial	Industrial	Governmental	Educational	Religious	Agricultural	
Beauregard	6,395	349,714	12,554	2,511	1,948	5,797	6,590	2,106	379,114
Calcasieu	183,315	12,465,657	1,773,367	536,164	31,730	66,709	156,686	17,737	15,030,314
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Jefferson Davis	2,768	166,921	5,459	2,230	0	1,536	1,364	301	177,510
Natchitoches	1,872	122,426	4,407	0	284	1,026	815	132	128,959
Sabine	22,583	1,573,492	144,310	41,642	18,112	6,630	18,624	1,918	1,802,810
Vermilion	282	41,437	481	609	171	0	0	240	42,699
Vernon	8,794	566,066	12,327	2,592	268	0	3,409	196	584,662
Washington	28,965	1,825,260	192,024	28,292	11,541	15,312	27,647	1,714	2,100,076
TOTAL	264,889	17,853,715	2,243,740	661,799	70,629	108,612	229,993	26,518	21,168,487

Data Limitations

Estimated losses for wildfire could not be performed due to the quality of the existing data. The USGS Land Cover data was not used to determine vulnerability, as it could not be georeferenced beyond the parish level. Neither the USGS Land Cover data nor the WUI could be used to determine loss estimates because no loss information was provided.

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